

*Control of the*  
**Squash  
Vine Borer**


by L. A. MILLER

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# THE SQUASH VINE BORER

by

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The squash vine borer<sup>1</sup> is an annual pest of most cultivated varieties of the squash family. Squashes, marrows, pumpkins, and gourds are most frequently attacked, and the common canning varieties of squash, Golden Hubbard and Boston Marrow, are very susceptible. Cucumbers, melons, and citrons rarely become infested.

## DISTRIBUTION

In Canada the borer appears to be confined to a small area in southwestern Ontario, and does not occur north of an approximate line through Toronto and Sarnia.

## DESCRIPTION AND LIFE-HISTORY

The adult of the borer is a very pretty, clear-winged moth that is active only during the day. The body is strikingly coloured with black and orange markings. The hind legs are orange and fringed with dense, long, black hairs. When in flight the moth can easily be mistaken for a wasp. Each female may lay about 100 eggs. The eggs are reddish-brown, are about a twenty-fifth of an inch in diameter, and generally have a small depression on the top. The borers, moult four times and when full-grown are about an inch long, stout, and sluggish. The pupae are light to dark brown and are encased in tough, leathery cocoons about three-quarters of an inch long, usually covered with soil particles.

There is one complete generation and a partial second generation of the borer each year in Canada. The adults begin to emerge during the last week of June and emergence continues until about July 15. Egg-laying begins the day after the female emerges. The eggs are usually laid either singly or in small groups on the squash stem near the soil surface (Fig. 1). They hatch after nine days, and the tiny borers tunnel into the stem of the host plant. The borers reach maturity in about 40 days. This period may be longer or shorter, depending on the weather and available food supply. Toward the end of the season, when the vines have become woody and less succulent, borers sometimes attack the developing

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<sup>1</sup>Melittia cucurbitae (Harr.).



Fig. 1. Eggs of the squashvine borer on stem of Golden Hubbard squash seedling.

fruits and enter the fleshy tissue. Mature borers begin to leave the vines by the middle of August. They enter the soil and form cocoons, in which they spend the winter. The pupae are formed within the cocoons during late spring.

#### DAMAGE

Wilting vines (Fig. 2) about the end of July usually indicate the presence of borers. On close examination, small mounds of wet, sawdust-like material or excrement can be found along the basal portion of the stem. Often the infested area is slimy with rotting plant tissue. Later in the growing season, the base of the stem may become enlarged (Fig. 3) and in heavy infestations the stem breaks. In the latter case, the vines may continue to grow by means of secondary roots formed along the vines. Where this condition exists, the fruits are generally inferior, in both quality and quantity.

#### CONTROL

In Small Garden Plots

1. The eggs of the squash vine borer are very easily seen





Fig. 2. Wilting vines caused by the borer.



Fig. 3. Enlargement of squash stem caused by the borer

at the bases of the stems during the latter part of June and throughout July. Either crush these on the plants, or carefully remove them with a razor blade and destroy them.

2. If the borers have already become established in the vines, as shown by droppings, remove and destroy them by carefully slitting the vines lengthwise. After removing the borers, mound over the cut portions of the vines with moist earth; this will help secondary roots to form.

3. Use any of the recommendations for commercial plantings.

#### In Commercial Plantings

The borer can be controlled by dusting the plants with 2 1/2 per cent aldrin, 2 1/2 per cent dieldrin, three per cent methoxychlor, or one per cent rotenone. Commercial preparations containing one or other of these insecticides and a fungicide are available.

For these insecticides to be effective, the grower must pay particular attention to the following points:

1. Make the first application as soon as the seedlings appear above ground to control the striped cucumber beetle as well as the borer.

2. Thoroughly cover the plants with insecticide, particularly the bases of the stems, where the eggs are most frequently laid. It is not enough to cover only the leaves. The amount of material used depends on the size of the vines, but good coverage is the key to successful control.

3. At least three applications are necessary because of the rapid growth of the vines. Make them at seven- to ten-day intervals. If heavy rains occur after the application, repeat the treatment immediately.

For further information write to the Field Crop Insect Unit, Science Service Building, Ottawa, or to the Entomology Laboratory, Chatham, Ontario.

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